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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,890	02/06/2004	Srinka Ghosh	10030771-1	8510

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AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
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EXAMINER

LIN, JERRY

ART UNIT	PAPER NUMBER
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1631

MAIL DATE	DELIVERY MODE
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05/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/773,890	Applicant(s) GHOSH, SRINKA	
	Examiner Jerry Lin	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-24 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/6/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group III, claims 16-24 and 26, in the reply filed on October 10, 2006 is acknowledged. The traversal is on the ground(s) that the method in Group I contains only one more extra step than Group III and that the specification is drawn to feature extractability to facilitate feature extraction. This is not found persuasive because the presence of different steps in the Groups signifies that the Groups are drawn to different and distinct methods. Since the Examiner is charged with searching the prior art for each limitation in the claims, the presence of additional steps would require additional searches, which would be an undue search burden. Regarding the Applicants comments regarding the specification, it is the claims that define the invention, not the specification. Thus, the Examiner does not import limitations from the specification into the claims.

The requirement is still deemed proper and is therefore made FINAL.

Status of the Claims

Claims 16-24 and 26 are under examination.

Claims 1-15 and 25 are withdrawn as being drawn to an unelected invention.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-24 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 16 and 26 recite the limitation "the microarray" in lines 8 and 9, respectively. There is insufficient antecedent basis for this limitation in the claim. Although the instant claims do mention microarray data, the instant claims do not mention a microarray previously in the instant claims. Claims 17-24 are rejected for depending on these claims.

4. Claims 16, 20, 22, 23, 24, and 33 recite the limitation of "regularly shaped region." It is unclear what this term means. The Specification does not define this term. The Merriam-Webster Online Dictionary defined a regular shape as a shape that is both equilateral and equiangular. However, the instant specification and claim 24 state that a regular shape may be disk-shaped or ellipsoid. These embodiments appear to contradict with the definition of "regular". Clarification via clearer claim language is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 16-24 and 26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The instant claims are drawn to the judicial exception of a computational algorithm. Claims drawn to the application of a judicial exception is non-statutory unless

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the claims include a step of physical transformation, or if the claims include a useful, tangible and concrete final result. It is important to note, that the claims themselves must include a physical transformation step or a useful, tangible and concrete final result in order for the claimed invention to be statutory. It is not sufficient that a physical transformation step or a useful, tangible, and concrete final result be asserted in the specification for the claims to be statutory. In the instant claims, there is no step of physical transformation, thus the Examiner must determine if the instant claims include a useful, tangible, and concrete final result.

In determining if the instant claims have a useful, tangible, and concrete final result, the Examiner must determine each standard individually. For a claim to be "useful," the claim must produce a final result that is specific, substantial, and credible. For a claim to be "tangible," the claim must set forth a practical application of the invention that produces a real-world final result. For a claim to be "concrete," the process must have a final result that can be substantially repeatable or the process must substantially produce the same final result again. Furthermore, the claim must recite a useful, tangible, and concrete final result in the claim itself, and the claim must be limited only to statutory embodiments. Thus, if the claim is broader than the statutory embodiments of the claim, the Examiner must reject the claim as non-statutory.

The instant claims do not include a tangible final result. A tangible requirement requires that the claim must set forth a practical application of the computational algorithm to produce a real-world final result. The claims are drawn to a judicial

exception embodied on a system. Although the system is a machine, a judicial exception still requires a practical application demonstrated by a useful, tangible, or concrete final result. While the instant claims do render the microarray for visual display and displays the microarray data, these results are intermediate results and are not final results. After displaying the microarray data, the program continues other processing steps. As written, a result from the processing steps is not present in the claims, nor does a result necessarily flow from the processing steps. Thus the instant claims do not include a tangible final result. This rejection could be overcome by amendment of the claims to recite that a final result of the method is outputted to a display or a memory or another computer on a network, or to a user, or by including a physical transformation.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 16-24 and 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Bozinov (IEEE Transaction on NanoBioscience (2003) Vol. 2, Number 4, pages 215-220).

The instant claims are drawn to a system that includes a processor, stored data, a display device, a user input device, and a program that renders and displays the data for visual display, receives a boundary of a region of feature extractability within

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the microarray, and constructs a regularly shaped region for feature extractability from the received boundary of the region of feature extractability within the microarray.

Regarding claims 16 and 26, Bozinov teaches a software system, which would require a process, stored microarray data, and a display device and user input device (abstract), with a program that renders and displays the microarray data for visual display (page 217, Figure 1; page 219, Figure 5), receives a boundary of a region of feature extractability within the microarray (pages 218-219), and constructs regularly shaped region of feature extractability from the received boundary of the region of feature extractability (pages 218-219).

Regarding claims 17 and 18, Bozinov's software system also renders and displays images of the microarray with indications of putative (i.e. existing) feature positions (page 217, Figure 1; page 219, Figure 5).

Regarding claim 19, Bozinov's software system also teaches receiving a contour line enclosing the region of feature extractability (page 219).

Regarding claim 20, Bozinov's software system employs nearest neighbor analysis (i.e., direct neighbor search) to generate a binary mask with binary values and determining a regularly shaped region of feature extractability (page 218-219).

Regarding claim 21, Bozinov's software system employs a nearest neighbor analysis wherein if the nearest neighbor intensity value is greater than a computed average intensity, the binary value assigned to a pixel indicates it is a region of feature extractability, whereas if the nearest neighbor intensity value is less than a computed

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average intensity, the binary value assigned to a pixel indicates it is not a region of feature extractability (page 218, left column).

Regarding claims 22 and 23, Bozinov teaches computing the size of the regularly shaped region of the feature extractability and positioning the regularly shaped region of feature extractability so the geometric center coincides with the center of mass (page 218) and wherein the majority of pixels with corresponding binary-mask values are included in the regularly shaped region (page 218).

Regarding claim 24, Bozinov teaches wherein the region is a rectangular region (page 218, Figure 3; page 219, figure 4).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 10:00-6:30, M-F.

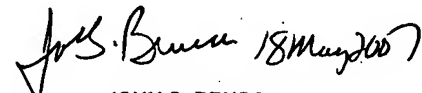
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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